

## Patent Abstracts of Japan

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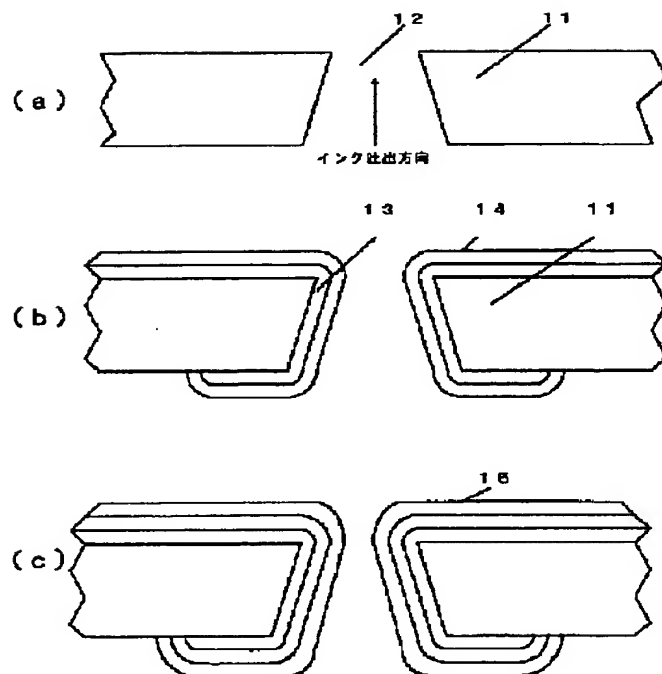
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TITLE : MANUFACTURE OF INK JET HEAD,  
AND INK JET PRINTER



**ABSTRACT :** PROBLEM TO BE SOLVED: To prevent the water-repellent, oil-repellent performance of an ink discharging surface from decreasing even during a long term usage of a head, and make troubles such as a printing turbulence hard to generate by forming an intermediate film having an ink hardly soluble property, which can chemically combine with a water-repellent, oil-repellent substance, on the ink discharging side surface of a base material.

**SOLUTION:** Titanium and a water-repellent, oil-repellent substance are formed on a nozzle plate made of silicon. On the surface of a silicon base plate 11 on which a nozzle hole 12 is formed, a titanium film 13 of approx. 1000 angstroms is formed by a sputter method, and a naturally oxidized film 14 is applied on the surface of the titanium film 13 by leaving it to stand in an atmospheric environment. Then, a fluoroalkylsilane based water-repellent, oil-repellent substance 15 is formed on the top of the naturally oxidized film 14 by a vacuum deposition method. In a final stage, the nozzle plate and a first plate are bonded, and an ink jet head is completed.

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